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January 3, 2013

Mr. Jerry Winslow
Principal Environmental Engineer
Xcel Energy, Inc., on behalf of NSPW
414 Nicollet Mall, MP 7A
Minneapolis, Minnesota 55401

Via e-mail

Subject: Ashland Geotechnical Investigation – WDNR Tour of Foth lab on December 19, 2012

Dear Mr. Winslow:

Thank you for the invitation for a tour of the Foth lab and an opportunity to review the Ashland soil samples on December 19th. We met with Jim Hutchison and spent about an hour in the lab, observed the layout of sample jars for lithology interpretation, Foth workers photographing the sample jars, the storage area for the Shelby tubes, and the white-board where blow count values were displayed and sample intervals were identified for various lab analyses.

As a note, we did not participate in the decision-making for selecting samples for analysis or direct any aspect of the strategy for evaluating the geotechnical properties of the sub-surface conditions at the former MGP site.

We did note that the Foth lab is processing hundreds of samples from the site in a short period of time with relatively rapid decision-making on identifying samples for various properties. Although we did have discussion of the sample selection choices on the white-board, we do not have a quantitative understanding of the sample selection criteria. We will ask that the data report provide us with a description of the decision process that was used for sample selection to quantify the strength and other geotechnical properties.

In addition, we noted the following:

- Obtaining Shelby tubes was difficult due to the high densities of the Miller Creek formation.
- Split spoon samples were considered for submission for strength testing. From experience, this is unusual and outside of standard practice. Compared to Shelby tubes, split-spoon samples have a thicker wall, are driven by a hammer, and are often fragmented during extraction. Simply, split-spoon samples are disturbed samples. Disturbed samples are not reliable or representative of in-situ strengths. We are of the opinion that split-spoon samples are not appropriate for strength testing regardless of the ability of the ability of the sample to fit into the testing apparatus.
- We also downloaded the interim draft boring logs from the SharePoint web site and noted that the field Torvane test results from the Shelby Tubes were not displayed. We are confident that this information was collected and ask that this information be provided.
- We discussed boring elevations and were informed that the elevations would be surveyed once the investigation is completed and were not available at the time (i.e. samples were selected and tested without elevation information). Elevation is important for determining the relative depth of the sample

location, matching lithology, and assisting in selecting samples. We are unsure how samples were selected for sampling without this information. Please provide this information in the data report.

- We were unaware that both 3-inch and 1.5-inch diameter split-spoon samplers were being used. Please provide how the larger diameter N-values will be corrected for comparison with the smaller diameter values.
- Classifying the Miller Creek formation appeared to be challenging because of the varying percentages of clay, sand, and silt. The laboratory testing will assist with this; however, we will want to see the original field logs (from the driller) as well as the formal digitized logs.
- CQM (the soil testing laboratory) indicated that they do not perform laboratory vane shear tests (different from the torvane tests performed in the field). Please clarify if/how this will be performed in conjunction with Table 3-2 of the Pre-Design Work Plan.

In summary, to assist the agencies in evaluating the pre-design work and geotechnical analyses please provide the following information:

1. Provide the original field logs (from the driller) for all the borings by January 9, 2013. A simple scan of these logs will be adequate.
2. Provide the interim boring logs for all the borings with blow counts, pocket pen, torvane, USCS classifications, and lithological description by January 15, 2013.
3. Post the laboratory geotechnical test results to the SharePoint site within five business days of the test completion.
4. Provide a description of the laboratory test method and equipment for the laboratory vane shear tests along with a statement from the soil testing laboratory that they can complete this testing. Provide this as an addendum to the Pre-Design Work Plan by January 15, 2013.
5. Provide a description of the sample testing selection criteria for the various boring purposes (i.e. shoreline bulkhead or containment design) with the Pre-Design Study Geotechnical Report.
6. Provide the methodology for correlating and comparing the two different diameter split-spoon N-values in the Pre-Design Study Geotechnical Report.

We appreciate the opportunity to visit with Foth consultants and to see the laboratory and samples and feel that this gave us a better understanding of the site. We look forward to continuing to work together to advance this important cleanup.

Sincerely,

Bill Fitzpatrick & Scott Inman
Engineers
Office of the Great Lakes & Contaminated Sediment Unit

cc: Jamie Dunn, WDNR
John Robinson, WDNR
Scott Hanson, EPA
Ompakash Patel, Weston Solutions
Jim Hutchison, Foth
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